

Decomposition A/M

i)  $x^2 + 7x + 12$

ii)  $2x^2 - 10x + 8$

iii)  $3s^2 + 8st + 4t^2$

Sep 26-8:10 AM

Decomposition A/M

i)  $x^2 + 7x + 12$  +7 +12  
 $x^2 + 3x + 4x + 12$   
 $x(x+3) + 4(x+3)$   
 $(x+3)(x+4)$

ii)  $3s^2 + 8st + 4t^2$  +8 +12  
 $3s^2 + 6st + 2st + 4t^2$   
 $3s(s+2t) + 2t(s+2t)$   
 $(s+2t)(3s+2t)$

$2x^2 - 10x + 8$   
 $2(x^2 - 5x + 4)$  -5 +4  
 $2(x^2 - 4x - 1x + 4)$   
 $2(x(x-4) - 1(x-4))$   
 $2(x-4)(x-1)$

Sep 26-8:10 AM

STEPS      Decomposition      -Factoring

i) Common Factor  
Special Cases

ii) Difference of Squares

iii) Perfect Squares

iv) Decomposition A/M  
b/a/c

v) Determine Non Factorable -Quad Formula

$2x^2 - 7x - 4$  -7 +12  
 $2x^2 + 1x - 8x - 4$   
 $x(2x+1) - 4(2x+1)$   
 $(2x+1)(x-4)$

$3x^2 + 18x + 15$   
 $3(x^2 + 6x + 5)$  +6 +5  
 $3(x^2 + 1x + 5x + 5)$   
 $3[x(x+1) + 5(x+1)]$   
 $3(x+1)(x+5)$

Sep 27-9:47 AM

## Factoring Special Cases

### Difference of Squares

Check  
c term - negative  
no middle term  
square roots a & c  
(perfect)

$(x^2 - 49)$   
 $(\sqrt{x^2} - \sqrt{49})$   
 $(x+7)(x-7)$

Feb 25-10:58 AM

$(x^2 - 81)$        $(x^2 - 121)$   
 $(x-9)(x+9)$        $(x+11)(x-11)$

$(x^2 + 225)$  nonfactorable       $(9x^2 - 16)$   
✓  
 $(3x-4)(3x+4)$

Feb 25-11:01 AM

### Perfect Squares

a)  $x^2 + bx + c$  ✓    ✓    x 2  
 $x^2 + 14x + 49$  = middle term  
 $(x+7)(x+7)$  = Perfect Square  
 $(x+7)^2$

Feb 25-11:06 AM

$$x^2 + \underline{16x} + 64 \quad x(8)(2) = 16x$$

$$(x + 8)^2$$

$$x^2 - 20x + 100 \quad (x)(10)(2)$$

$$(x - 10)^2$$

Feb 25-11:09 AM

$$9m^2 + 42m + 49$$

$$(3m + 7)^2 \quad (3m)(7)(2)$$

Homework

q 4-10, 13\*p 110

q 2-4 p 115

q 3,4, 13, 18 p. 120

Feb 25-11:12 AM

$$x^2 + \underline{52x} + 100 \quad \sqrt{x^2} \quad \sqrt{100}$$

$$x^2 + 50x + 2x + 100 \quad x \quad 10 \quad (2)$$

$$x(x+50) + 2(x+50) = 20x$$

$$(x+50)(x+2)$$

A	M
+52	+100
2	50

Sep 24-10:30 AM

$$h(t) = 45 - 5t^2$$

$$0 \leq t \leq 3 \quad a)$$

$$0 = 45 - 5t^2$$

$$-45 = -5t^2$$

$$\frac{-45}{-5} = \frac{-5t^2}{-5}$$

$$9 = t^2$$

$$\sqrt{9} = t$$

$$3 = t$$

Feb 25-11:14 AM

Sep 22-10:52 AM